

In the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A ~~novel~~ structure for a photodiode of an image sensor, comprising:

at least one photodiode region formed in a semiconductor substrate; and

at least one transistor;

wherein the photodiode region comprises:

a p-type region extending to a surface of the semiconductor substrate; and

an n well region formed in said p-type region, wherein the n well region comprises a

bar portion and a plurality of parallel finger portions extending from the
bar portion, and the bar portion is electrically connected to the transistor
via a connection.

~~a p-type region extending to the surface of a semiconductor substrate;~~

~~a multiplicity of parallel finger-like n wells formed in said p-type region that are connected~~
~~to a conductive region at one end.~~

2. (original) The structure of claim 1 wherein said p-type region is a p-substrate.

3. (original) The structure of claim 1 wherein said p-type region is a p-well.

4. (currently amended) The structure of claim 1 wherein said parallel finger-like n wells finger portions are formed by phosphorous ion implantation.

5. (currently amended) The structure of claim 1 wherein the depth of said parallel ~~finger-like n-wells finger portions~~ is between about 1 and 5 microns.

6. (currently amended) The structure of claim 1 wherein the width of said parallel ~~finger-like n-wells finger portions~~ is between about 0.5 and 2 microns.

7. (currently amended) The structure of claim 1 wherein the separation of said parallel ~~finger-like n-wells finger portions~~ is between about 0.5 and 2 microns.

8. (currently amended) The structure of claim 1 wherein the number of said parallel ~~finger-like n-wells finger portions~~ is greater than 3.

9. (currently amended) A method of fabricating a ~~novel~~ structure for a ~~photodiode of an image sensor~~, comprising:

forming at least one photodiode region formed in a semiconductor substrate; and
providing at least one transistor;

wherein formation of the photodiode region comprises:

forming a p-type region extending to a surface of the semiconductor substrate; and
forming an n well region formed in said p-type region, wherein the n well region
comprises a bar portion and a plurality of parallel finger portions extending
from the bar portion, and the bar portion is electrically connected to the
transistor via a connection.

~~Providing a p-type region extending to the surface of a semiconductor substrate;~~

~~Forming a multiplicity of parallel finger like n wells formed in said p type region that are connected to a conductive region at one end.~~

10. (original) The method of claim 9 wherein said p-type region is a p-substrate.
11. (original) The method of claim 9 wherein said p-type region is a p-well.
12. (currently amended) The method of claim 9 wherein said parallel finger like n wells finger portions are formed by phosphorous ion implantation.
13. (currently amended) The method of claim 9 wherein the depth of said parallel finger like n wells finger portions is between about 1 and 5 microns.
14. (currently amended) The method of claim 9 wherein the width of said parallel finger like n wells finger portions is between about 0.5 and 2 microns.
15. (currently amended) The method of claim 9 wherein the separation of said parallel finger like n wells finger portions is between about 0.5 and 2 microns.
16. (currently amended) The method of claim 9 wherein the number of said parallel finger like n wells finger portions is greater than 3.